

AMENDMENTS TO THE SPECIFICATION

Please replace Paragraphs [0002] and [0011] with the following paragraphs rewritten in amendment format:

[0001] With present day aircraft and aerospace vehicles, wings employed on such vehicles typically include a “planform break” along a trailing edge portion of the wing, and often also along a leading edge portion the wing, at a transitional region where the fore-to-aft length of the wing increases to meet the fuselage of the aircraft or aerospace vehicle. An example of this is shown in Figure 1. A wing 10 includes a transition region within dashed lines 12 which separates an outer portion 14 of the wing from an inner portion 16 which is coupled to a fuselage 18 of the aircraft or aerospace vehicle. Within the transition region 12, a first planform break 20 is included along a leading edge 22 26 of the wing 10, as well as a second planform break 24 along a trailing edge 26 22 of the wing. The planform breaks 20 and 24 form spanwise surface discontinuities that cause significant difficulties and additional expense in the manufacturing of the wing 10. Particularly, these spanwise discontinuities add to the manufacturing costs and complexity by requiring significant forming and/or shot-peening of the skin to make the skin conform to these planform breaks and surface discontinuities. As will be appreciated, these extensive forming and/or shot-peening operations necessary to conform the skin to the planform breaks and surface discontinuities adds considerable costs to the manufacturing process. Furthermore, excessive skin thickness in the transition region will result in even more complex and costly forming and/or shot-peening of the skin to achieve the required, abrupt contours at these planform break locations 20 and 24.

[0002] Referring to Figure 2, there is shown a wing or airfoil 100 in accordance with the preferred embodiment of the present invention. Simply for convenience, the term “wing” will be used throughout the following discussion. The wing 100 is coupled to fuselage 102 of an aircraft 104. The wing 100 includes an inner region 106, an outer region 108 and a transition region 110. A leading edge 112 extends spanwise along the full length of the wing 100, while a trailing edge 114 similarly extends spanwise along the full length of the wing. The leading edge 112 and the trailing edge 114 converge, relative to an outermost edge 117 of the wing 100, more sharply in the inner region 106 than in the outer region

108. The transition region 110, as will be noted immediately, forms a smooth gradually curving region which integrates the inner region 106 and outer region 108 of the wing 100. One or more skin panels 109 are used to form a smooth, outermost surface for the wing 100. Accordingly, there are no abrupt, spanwise planform breaks in the transition region 110. The complete absence of these planform breaks allows the wing 100 to be constructed by simple forming or by draping of the skin 109 over the spars and stringers in the transition region 110, rather than requiring complex or extensive forming and/or shot-peening operations to conform the skin 109 in the areas where planform breaks would normally occur. Thus, each of the leading and trailing edges 112 and 114, respectively, along with transition region 110 form smooth surfaces devoid of any abrupt planform breaks or surface discontinuities. The elimination of the planform breaks and the resulting smooth blending of transition region 110 thus enables the wing 100 to be made with fewer manufacturing steps using simpler methods at a lower cost than the wing 10 of Figure 1. Furthermore, the aerodynamics of the wing 100 are improved by the absence of the planform breaks at the leading and trailing edges 112 and 114, respectively, because of the more smoothly varying spanwise load distribution.